HW#51: Composition of Functions @ Integer

Geometry – FORM A

Due Date: Tuesday, January 8th, 2013

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

**Failure to show work on all problems or use complete sentences will result in a LaSalle.**

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| 1. Let f(x) = 2x- 1 and g(x) = .  Find f(g(16)).  ***ex.***  *Step 1: g(x) = x*  *g(16) = 16*  *Step 2: f(x) = 2x – 1*  *f(g(16)) = 2(16) – 1*  *f(g(16)) = 32 – 1*  *f(g(16)) = 31* | 2. Let w(x) = *2x2*  and r(x) =  Find (wr)(4).  *Step 1: r(x) = x*  *r(4) = 4*  *Step 2: w(x) = 2x2* | 3. f(x) = *2x2* + 4, g(x) = 3x- 3. Find f(g(-2)).  *Step 1: g(x) = 3x – 3*  *g(-2) = 3(-2) – 3*  *g(-2) =\_\_\_\_\_*  *Step 2: f(x) = 2x2* + 4  *f(g(-2)) = \_\_\_\_\_\_\_\_\_\_\_\_\_* |
| 4. f(x)= *3x2 +* 2x -1, g(x) = 2x - 4 Find f g(3).  *Step 1: g(x) = 2x – 4*  *g(3) = 2(3) – 4*  *g(3) = \_\_\_\_\_\_\_\_*  *Step 2: f(x) = 3x2 +* 2x -1  *f(g(3)) =* | 5. Let w(x) = *2x2 +* . Find  ww(-4).  *Step 1: w(-4) = 2(-4)2 + 1*  *w(-4) = \_\_\_\_\_\_\_\_\_\_*  *Step 2: w( ) = 2( )2 + 1*  *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* | 6. Let j(x) = *2x2 +* . Find j(j(3)).  *Step 1: j(3) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *Step 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* |
| 7. Let f(x) = 2x + 5 and g(x) = x-8.  a) Find f(g(3))  *Step 1: g(x) = x – 8*  *g(3) =\_\_\_\_\_\_\_\_\_\_*  *Step 2: f(x) = 2x + 5*  *f(g(3)) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  b) g(f(3))  *Step 1: f(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *f(3) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *Step 2: g(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *g(f(3)) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* | 8. Let p(x) = *x2 +*  and r(x) = .  a) Find (pr)(4)  *Step 1: r(x) = \_\_\_\_\_\_\_\_\_*  *r(4) = \_\_\_\_\_\_\_\_\_*  *Step 2: p(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *p(r(4)) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  b) (rp)(4) – *Leave in radical form!*  *Step 1: r(x) = \_\_\_\_\_\_\_\_*  *r(4) = \_\_\_\_\_\_\_\_*  *Step 2: p(x) = x2 + x*  *p(r(4)) = \_\_\_\_\_\_\_\_\_\_\_\_\_* | 9. Let f(x) = 3x + 2 and g(x) = x+ 2.  a) Find f(g(-2))  *Step 1:*  *Step 2:*  b) g(f(-2))  *Step 1:*  *Step 2:* |

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| 10. Factor:  ( )( )  Check: | 11. Find the sum of the solutions to the equation:     1. factor 2. solve twice 3. add |
| 12. A ball is kicked upward. It is h feet above the ground t seconds after it is kicked. The relationship between h and t is given by the equation .  a. What is the max height of the ball?  1. enter equation into y= on calculator  2. check WINDOW settings (x-min; x-max; x-scl; etc.)  3. Use MAX function to find maximum height  b. How many feet above the ground is the ball 2 seconds after it is kicked?  4. Use VALUE function to find the value of y (height) at x (time) = 2. | |
| 14. For what value of x, if any, is the equation  *(x – 5)(x – 5)* ***=*** *(x + 3)(x + 3) FOIL or BOX each side* | 15. Find the solutions to the equation:   1. factor 2. solve twice |